

(English version)

**Question for written answer E-002566/25
to the Commission
Sara Matthieu (Verts/ALE)
(25 June 2025)**

Subject: Climate impact of hydrogen leakage

Given the prominent role envisaged for clean hydrogen in the EU's decarbonisation agenda, questions around its full climate impact must be assessed urgently.

There is strong scientific consensus that hydrogen's global warming potential (GWP) is significantly higher than previously reported by the IPCC and referenced in current EU legislation. In addition, recent scientific research, including EU-funded projects and independent campaigns, will provide new evidence such as direct measurement and quantification of hydrogen emissions.

Article 9(6) of the Gas Market Directive ⁽¹⁾ mandates the Commission to submit a report evaluating hydrogen leakage and proposing maximum leakage rates, but it does not specify a publication timeline. Given the rapid pace of hydrogen infrastructure development and the investment decisions being made now, this regulatory gap poses immediate risks to achieving EU climate objectives.

In light of this:

1. Can the Commission agree that it is both feasible and critically important to submit the report on hydrogen leakage, and if so, what specific steps will the Commission take to ensure it is submitted before 2028?
2. Does the Commission acknowledge the scientific consensus regarding hydrogen's GWP and will this updated understanding inform upcoming legislative initiatives, including the upcoming delegated act on low-carbon hydrogen?

Submitted: 25.6.2025

**Answer given by Mr Jørgensen on behalf of the European Commission
(24 October 2025)**

The Commission acknowledges the importance of addressing hydrogen leakage in the context of the EU's decarbonisation agenda and the development of hydrogen infrastructure.

The Joint Research Centre (JRC) has been working on the matter, assessing environmental, social and economic impact of hydrogen production and transport, including assessments on hydrogen leakages and potential global warming consequences.

In particular, the JRC published in 2022 the technical report on 'Hydrogen emissions from a hydrogen economy and their global warming impact'. ⁽¹⁾

A follow up workshop co-organised by the United States Department of Energy and the JRC on hydrogen environmental impacts ⁽²⁾ took place in September 2024.

The Commission acknowledges the increased scientific literature on the Global Warming Potential (GWP) of hydrogen. However, the Intergovernmental Panel on Climate Change (IPCC) has not included a reference value for GWP of hydrogen in their latest sixth assessment report.

For this reason, and due to the lack of qualified tools to monitor hydrogen emissions, a GWP value has not been included in the methodology for assessing greenhouse gas emissions savings from renewable fuels of non-biological origin ⁽³⁾ and the recently adopted low-carbon fuels ⁽⁴⁾.

Once a GWP value will be established under an authoritative scientific source, such as the Intergovernmental Panel on Climate Change, the Commission will proceed with a technical update of relevant legislations.

¹ Directive (EU) 2024/1788 of the European Parliament and of the Council of 13 June 2024 on common rules for the internal markets for renewable gas, natural gas and hydrogen, amending Directive (EU) 2023/1791 and repealing Directive 2009/73/EC (OJ L, 2024/1788, 15.7.2024, ELI: <http://data.europa.eu/eli/dir/2024/1788/oj>).

⁽¹⁾ <https://publications.jrc.ec.europa.eu/repository/handle/JRC130362>.

⁽²⁾ <https://www.energy.gov/eere/fuelcells/hydrogen-emissions-and-environmental-impacts-workshop>.

⁽³⁾ https://eur-lex.europa.eu/eli/reg_del/2023/1185/oj/eng.

⁽⁴⁾ https://energy.ec.europa.eu/publications/commission-delegated-regulation-eu-specifying-methodology-assessing-greenhouse-gas-emissions-savings_en.